3RD - 5TH GRADE EXPERIENCES

Thank you for visiting us at County Line Orchard. Below you will find educational resources to conclude your learning adventure at County Line Orchard. While at the Orchard, our tour guides focused on the "P" words: Pollination, Packing, Press, Photosynthesis, and Picker People Picker Upper.

The Post-Learning Lessons below will focus on the Common Core standards. The goal of this curriculum is to follow up on what the students learned about the inner workings of our bees, apple production, and apple and pumpkin growing.

Helpful Websites:

- Education.com
- Pinterest

Please feel to contact us at orchardtours@countlylineorchard.com if you have any feedback regarding this curriculum. Thank you for allowing us at County Line Orchard to bring our passion of growing to your classrooms!

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1ST- 2ND GRADE LESSON #1: WHAT'S YOUR MEASURE?

Objective: Students will apply their knowledge of what they learned about Packing at County Line Orchard by measuring and comparing the different sizes of objects.

Standards

Math

MA.4.M.2: Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb., oz.; l, ml; hr., min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.

Procedure:

1. Group the pumpkins or apples and various measuring tools together on the table. Ask students how they would measure the pumpkin or apples. Discuss each of the following: The height of the pumpkin/ apple is how tall it is top to bottom, the width is how wide it is from side to side, the depth is how deep it is front to back, the circumference is its measurement all the way around, the weight is how heavy it is, and the volume is how much space it takes up.
2. Measure the height, width, depth, circumference, and weight of the pumpkin/ apple, recording the measurements as you go. Be sure to save volume until last because that is going to take some math to accomplish. When you write down each number, include the unit of measurement. For example, write "10 inches" instead of just "10."
3. With the other measurements recorded, it is time to calculate the volume. Use the formula Length X Width X Height to calculate the volume.
4. Now that students measured the pumpkin/ apple several different ways, ask them to compare the pumpkin/ apple to other items. Which is taller, the pumpkin/ apple or her desk? Which has the larger volume, the pumpkin/ apple or soccer ball? Which weighs more, the pumpkin/ apple or shoes?

Assessment:

- Students will accurately measure their objects using the same unit of measure.
- Students will correctly multiply their measurements to obtain the volume of their objects.
- Students will draw conclusions about sizing and Packing they learned about at County Line Orchard based on the measurement of the objects and correctly answer the questions at the bottom of the chart.

County Line Orchard

Name: _____

WHAT'S YOUR MEASURE?

Directions: Complete the chart by finding and recording the measurements of the objects in front of you. Be sure to record the unit of measure you are using and use that unit of measure for all objects. Answer the questions after you have completed the chart.

Object	Height	Width	Depth	Circumference	Weight	Volume

1. How did your object from the Orchard compare in height to your other objects? Was it bigger or smaller?

_____

_____

2. How did your object from the Orchard compare in width to your other objects? Was it wider or shorter?

_____

_____

3. How did you object from the Orchard compare in depth to your other objects? Was it longer or shorter?

_____

_____

4. How did your object compare in circumference to your other objects?

_____

_____

5. How did your object compare in weight to your other objects? Was is lighter or heavier?_____

_____

6. How did your object compare in volume to your objects?

_____

_____

7. What did you notice about how the weight and volume of your object compared to your other objects? Why do you think this is?_____

_____

3RD- 5TH GRADE LESSON #2: BEE SOCIAL

Objective: Students will apply their knowledge of what they learned about Pollination, Packing, Press, Photosynthesis, and Picker People Picker Upper by writing a Haiku of their memories at County Line Orchard.
Physical Science Standards
4.3.2 Observe, compare and record the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.

Materials:

- Bee Social Worksheet

Procedures:

- Review what you learned about bees at County Line Orchard.
- Be sure to touch on the differences between drones, worker bees, and queen.
- Have students answer the questions on the Bee Social worksheet

Assessment:

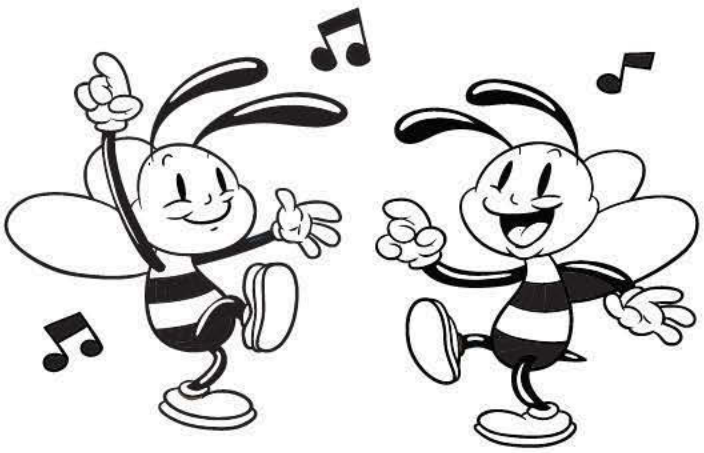
- Students will demonstrate their knowledge about bees and Pollination from what they learned at County Line Orchard by answering the questions correctly.

County Line Orchard

Name: _____

BEE SOCIAL

1. Which bee is responsible for laying eggs?



2. What does a drone do?

3. Is the drone a boy or girl?

4. What does a worker bee do?

5. Is the worker bee a boy or girl?

6. How does a worker bee know when to perform each of her duties?

7. What do field workers gather?

1ST- 2ND GRADE LESSON #3: RECIPE FOR PHOTOSYNTHESIS

Objective: Students will apply their knowledge of what they learned about Pollination, Packing, Press, Photosynthesis, and Picker People Picker Upper by writing a Haiku of their memories at County Line Orchard.

Physical Science Standards
4.3.2 Observe, compare and record the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.

Materials:

- Photosynthesis Recipe Card

Procedures:

- Review the process of Photosynthesis.
- Have students complete the recipe card writing out the process of Photosynthesis.

Assessment:

- Students will demonstrate their knowledge of what they learned about Photosynthesis at County Line Orchard by writing out the process correctly on the recipe card.

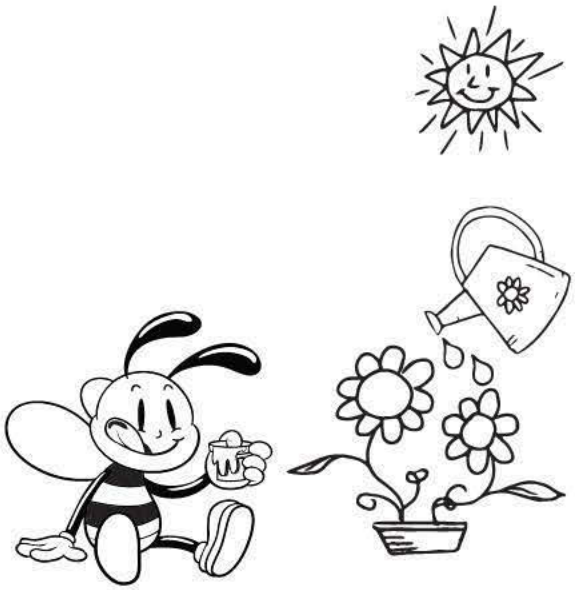
County Line Orchard

Name: _____

A RECIPE FOR PHOTOSYNTHESIS

Ingredients:

1. _____
2. _____
3. _____
4. _____



Steps:

First: _____

At the same time: _____

Next: _____

Then: _____

As a result: _____ and _____ are made.

3RD - 5TH GRADE EXPERIENCES

Thank you for booking a School Tour with us at County Line Orchard. Below you will find educational resources to prepare your students for their adventure at County Line Orchard. While at the Orchard, our tour guides will focus on the "P" words: Pollination, Packing Press, Photosynthesis, and Picker People Picker Upper.

The Pre-Learning Lessons below will focus on the Common Core standards. The goal of this curriculum is to engage students as they learn the inner workings of our apple production, bees, and apple and pumpkin growing.

Helpful Websites:

- Education.com
- https://www.youtube.com/watch?v=68b1HAIfX08

Please feel to contact us at orchardtours@countlylineorchard.com if you have any feedback regarding this curriculum. Thank you for allowing us at County Line Orchard to bring our passion of growing to your classrooms!

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3RD- 5TH GRADE LESSON #1: BEES CROSS

Objective: Students will learn and identify the different parts of the bee and the role they play in Pollination. Science Standards:
3.3.1 Identify the common structures of a plant including its roots, stems, leaves, flowers, fruits and seeds. Describe their functions.
English Standards:
3.RV.1 Build and use accurately conversational, general academic, and content-specific words and phrases.

Materials:

- Bee Cross

Procedures:

- Explain what bees are and identify the different parts of the bee.
- Have students complete the "Bee Cross Worksheet."

Assessment:

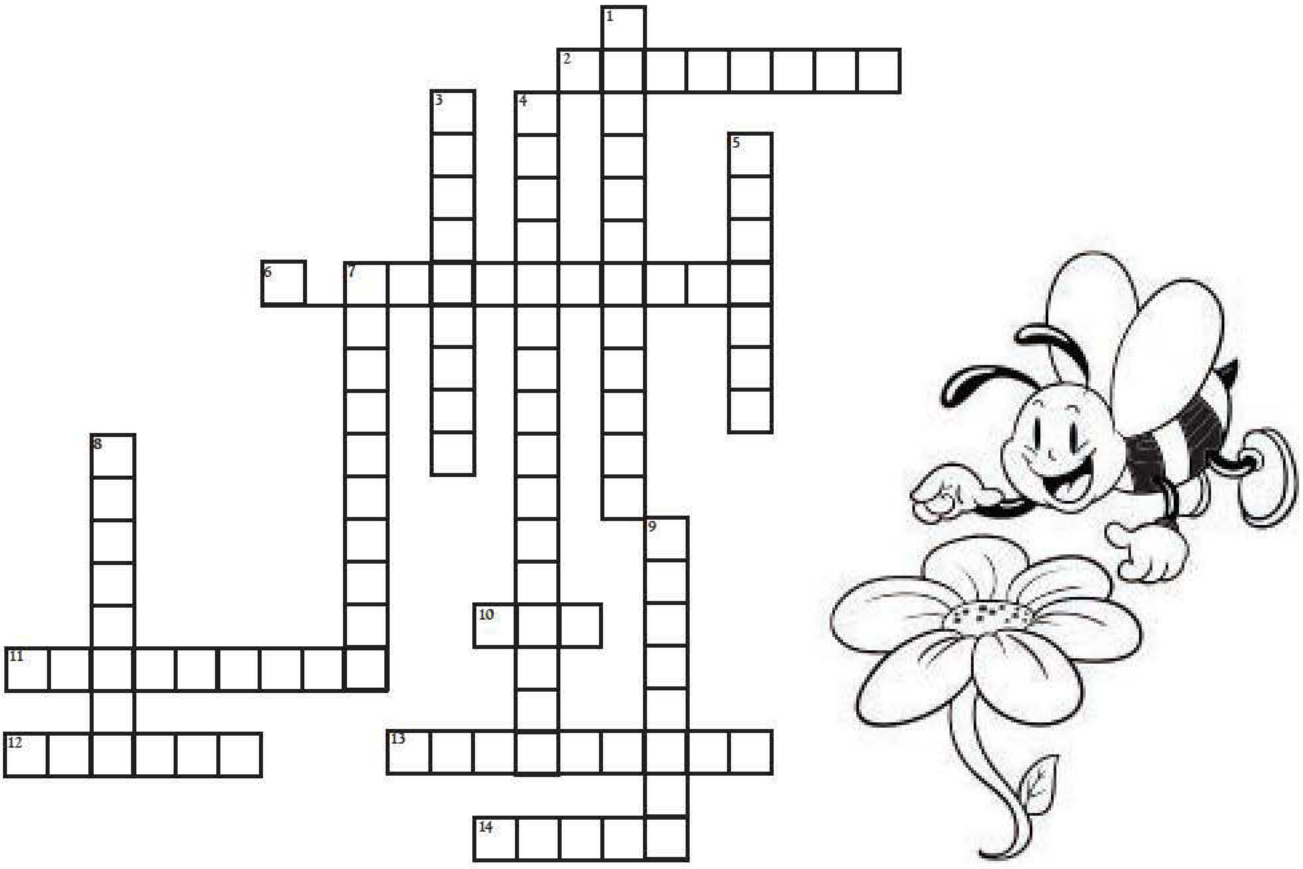
- Students will demonstrate their knowledge about bees by completing the blanks with the words they found in the crossword puzzle.
- Student will follow up this lesson plan at County Line Orchard by learning about the different types of bees and their role in Pollination.

County Line Orchard

Name: _____

BEES CROSS

Complete the crossword below.



Word Bank

• proboscis • middle leg • antennae • jaw • foreleg • hind leg • ocelli • sting • hind wing • spiracles • antennae cleaner • pollen press • compound eye • forewing

Across

2. Wing closest to the head whose main function is flight.
6. It is made up of thousands of tiny lenses that allows a honeybee to see ultraviolet light and visible light, except red.
10. Is used for feeding larvae, collecting pollen, moving wax, and carrying things.
11. Wing furthest from the head used for flight, and cooling.
12. Act as a photo receptor and navigation.
13. Tiny holes along the thorax and abdomen that help the bee breathe.
14. A sharp organ at the end of the bee's abdomen used to inject venom.

Down

1. It is used to brush, collect, pack, and carry pollen back to the hive.
3. The bee uses this when eating or drinking. It unfolds to form a long tube like a straw.
4. Located on the foreleg and used to clean the antennae.
5. Leg closest to the head.
7. Leg located between the foreleg and hind leg.
8. The bee uses these to smell and identify flowers, water, the colony, and you.
9. Leg farthest from the head. Worker bees collect and carry pollen on these.

3RD- 5TH GRADE LESSON #2: BUSY BODIES

Objective: Students will learn and identify the different parts of the bee and how bees play a role in Pollination. Science Standards:
3.3.1 Identify the common structures of a plant including its roots, stems, leaves, flowers, fruits and seeds. Describe their functions.
English Standards:
3.RV.1 Build and use accurately conversational, general academic, and content-specific words and phrases.

Materials:

- Busy Bee Bodies Worksheet

Procedures:

- Explain what bees are and identify the different parts of the bee.

Assessment:

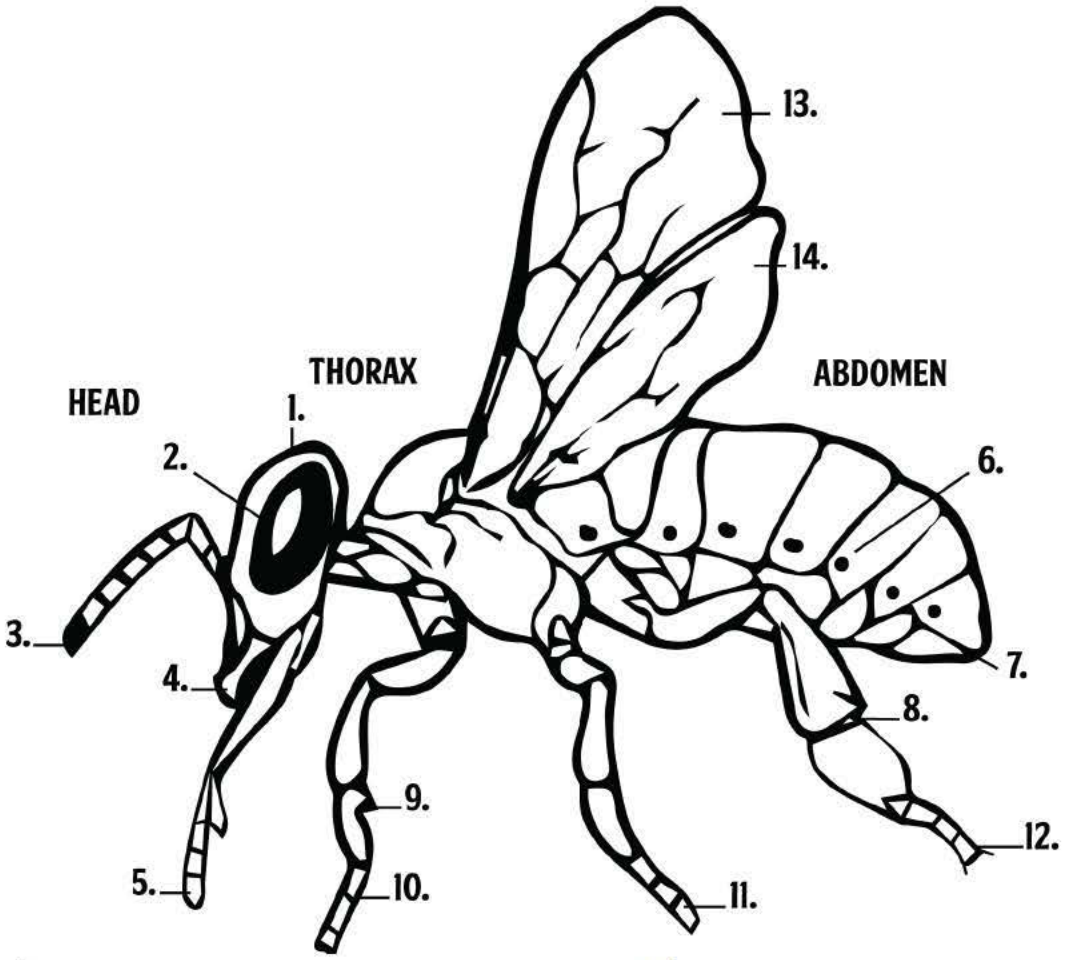
- Students will demonstrate their knowledge of bee vocabulary by labeling the parts of the bee correctly.
- Students will demonstrate their knowledge about bees by completing the blanks with the words they found in the crossword puzzle.
- Student will follow up this lesson plan at County Line Orchard by learning about the different types of bees and their role in Pollination.

County Line Orchard

Name: _____

BUSY BEE BODIES

Directions: Correctly identify the different parts of the honeybee's body.



Head:

1. _____
2. _____
3. _____
4. _____
5. _____

Thorax

9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

Abdomen:

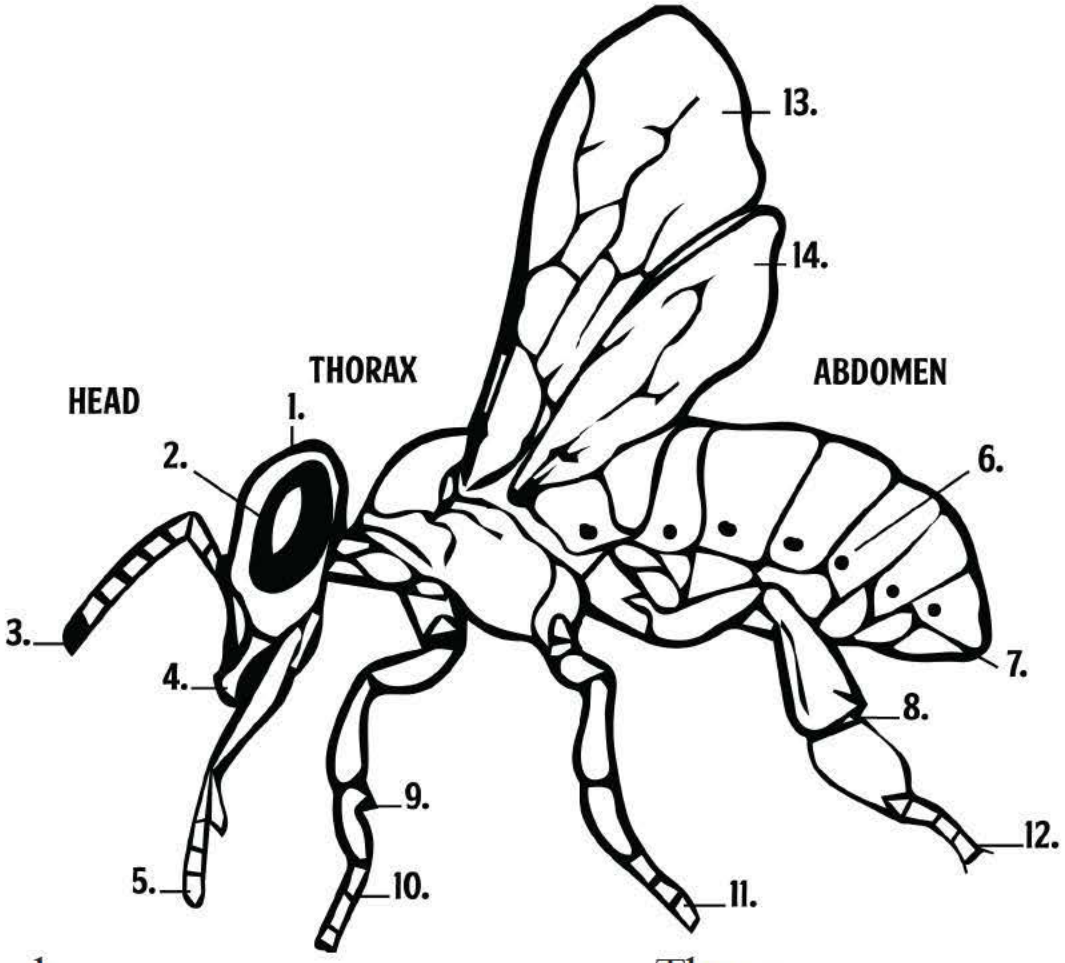
6. _____
7. _____
8. _____

County Line Orchard

Name: _____

BUSY BEE BODIES

Answer Sheet.



Head:

1. Ocelli
2. Compound Eye
3. Antenna
4. Jaw
5. Proboscis

Abdomen:

6. Spiracles
7. Sting
8. Pollen Press

Thorax

9. Antennae Cleaner
10. Foreleg
11. Middle Leg
12. Hind Leg
13. Forewing
14. Hindleg

3RD - 5TH GRADE LESSON #3: PHOTOSYNTHESIS

Objective: Students will learn and identify the terms associated with Photosynthesis. Science Standards:
3.3.1 Identify the common structures of a plant including its roots, stems, leaves, flowers, fruits and seeds. Describe their functions.
English Standards:
3.RV.1 Build and use accurately conversational, general academic, and content-specific words and phrases.

Materials:

- Photosynthesis Crossword

Procedures:

- Watch the video about the process of Photosynthesis. https://www.youtube.com/watch?v=68b1HAIfX08.
- Have students complete the crossword puzzle relating to the terms covered in the video.
- Explain the process of Photosynthesis.
- Have students complete the "Photosynthesis" crossword puzzle to learn the vocabulary associated with the process.

Assessment:

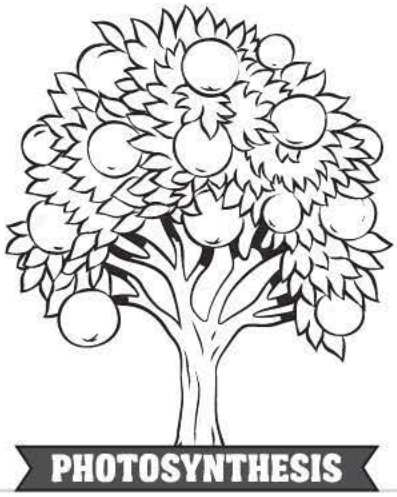
- Student will demonstrate their knowledge of the vocabulary associated with photosynthesis by completing the crossword puzzle.
- Students will follow up this lesson plan by learning about Photosynthesis at County Line Orchard.

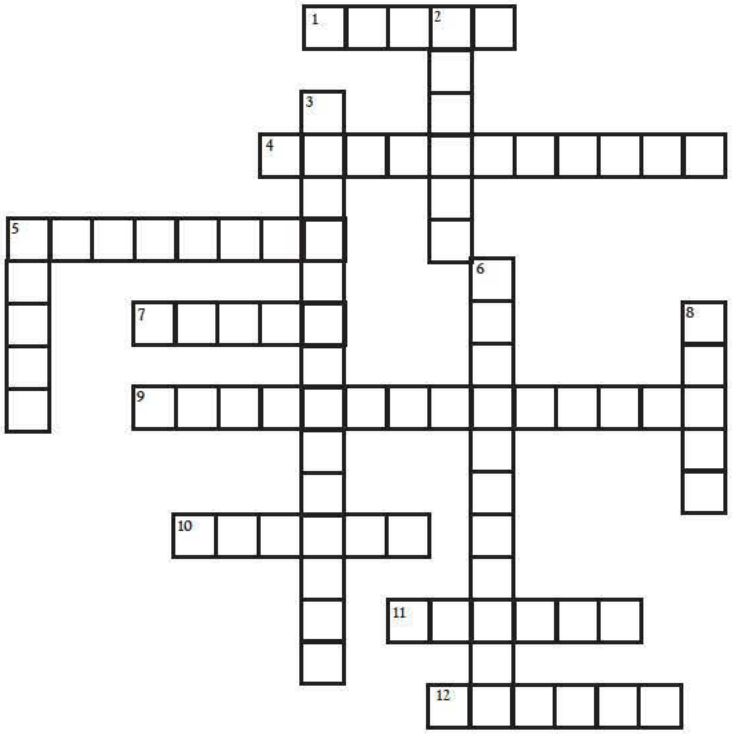
County Line Orchard

Name: _____

PHOTOSYNTHESIS

Complete the crossword below.





Word Bank

• Carbon Dioxide • Chlorophyll • Chloroplast • Energy • Green • Leaves
• Oxygen • Photosynthesis • Roots • Starch • Sugar • Sunlight • Water

Across:

1. Absorbed through the plant's roots.
4. Absorbs green energy from the sun.
5. Photosynthesis uses this to drive the process.
7. Plants absorb water and nutrients through these.
9. Compound converted during photosynthesis. By product of human respiration.
10. Waste product of photosynthesis.
11. Absorb light energy.
12. Excess sugar is formed as this.

Down:

2. Comes from the sun and carbon dioxide.
3. .Name of the entire process of how plants make food.
5. Compound produced by photosynthesis
6. Part of the plant that contains the chlorophyll
8. Chlorophyll gives plant life this color.